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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,987	04/15/2004	Willi Kaiser	IT 138001 (5024-001122)	7546
26753	7590	08/01/2006	EXAMINER	
ANDRUS, SCEALES, STARKE & SAWALL, LLP 100 EAST WISCONSIN AVENUE, SUITE 1100 MILWAUKEE, WI 53202			JOHNSON, SHEVON ELIZABETH	
			ART UNIT	PAPER NUMBER
			3766	

DATE MAILED: 08/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/824,987	Applicant(s) KAISER ET AL.	
	Examiner Shevon E. Johnson	Art Unit 3766	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-29 are still pending. Applicant's arguments filed 4/28/2006 in regards to claims 1-29 have been fully considered but they are not persuasive. The Applicant contends that Nearing, Norris, nor their combination teach the plurality of odd data points with the plurality of even data points to generate a plurality of difference points and displaying the plurality of different data points as a difference curve. The Examiner assert that Nearing (col. 12, lines 17-28) and Norris (col. 14, lines 9-24) both teach calculating odd and even median complexes, comparing the plurality of data points to generate a plurality of difference data points. The combination of Nearing, Norris and Nubling generate a method wherein after the difference data points have been generated they may be assigned a color, see Nubling (col. 1, line 38 – col. 2, line 30). Further, displaying the plurality of difference points as a curve or in any other format is noted as arbitrarily and obvious to one of ordinary skill in the art as taught by Nearing (col. 9, lines 23-26) and Nubling (abstract; col. 3, lines 28-38; col. 4, lines 47-55).

Claim Rejections - 35 USC § 102

2. **The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:**

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 18-23 and 26-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Nearing et al. (U.S. Patent No. 6,169,919).**

In regards to claim 18, Nearing et al. discloses an apparatus comprising: a display (902 or 930); and means for producing a spatiotemporal representation of the T-wave alternans data on the display (col. 9, lines 14-26, Fig. 9). One of ordinary skill in the art may recognize that the difference points can arbitrarily be displayed as difference curves as taught by Nearing (col. 9, lines 23-26; col. 12, lines 17-28).

In regards to claim 19-20, Nearing et al. discloses a method comprising: receiving digitized electrocardiogram data representing the electrocardiogram signal 1140; calculating odd median complexes for odd beats in the electrocardiogram data 1144; calculating even median complexes for even beats in the electrocardiogram data 1146; comparing the odd median complexes with the even median complexes to obtain estimates of the amplitude of beat-to-beat alternation in the electrocardiogram signal 1148;

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generating difference curves from the estimates of the amplitude of beat-to-beat alternation; and displaying the difference curves as a spatiotemporal representation of the beat-to-beat alternation in the electrocardiogram signal 1150 (col. 12, lines 17-28, Fig. 11B).

In regards to claim 21, Nearing et al. discloses a method comprising distinguishing between alternans distribution and artifact distribution (col. 10, line 64 – col. 11, line 3).

In regards to claim 22-23 and 26-29, Nearing et al. discloses a method comprising displaying the difference curves in a temporal alignment; assigning to each one of the estimates X, Y or Z coordinates and plotting the estimates to produce a two or three-dimensional representation; wherein providing an input for manual correction of the alternans data (col. 3, lines 37-43; col. 9, lines 14-26; col. 11, lines 4-26; Fig. 10).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-17, and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Norris et al. (U.S. Patent No. 6,823,213) or Nearing et al. (U.S. Patent No. 6,169,919) in view of Nubling et al. (U.S. Patent No. 6,967,652) applicant's prior art.

In regards to claims 1-17, and 24-25, Nearing discloses a method of calculating an odd median complex for at least one of the plurality of odd beats, the odd median complex having a plurality of odd data points (col. 1, lines 49-58); calculating an even median complex for at least one of the plurality of even beats, the even median complex having a plurality of even data points (col. 1, lines 49-58); comparing the plurality of odd data points with the plurality of even data points to generate a plurality of difference data points (col. 2, lines 55-62; col. 12, lines 17-28). Norris also discloses the method of calculating an odd and even median complex and then comparing the plurality of points to generate a plurality of difference data points (col. 14, lines 9-24). One of ordinary skill in the art may recognize that the difference points can arbitrarily be displayed as difference curves as taught by Nearing (col. 9, lines 23-26; col. 12, lines 17-28)

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and Nubling (abstract; col. 3, lines 28-38; col. 4, lines 47-55). Nubling displays curves as three-dimensional graphically waveforms.

Norris and Nearing combined disclose the method substantially as claimed except the processor assigns data points a "color" corresponding to amplitude and displays the data points as a difference curve and a plurality of curves in a temporal alignment.

However, Nubling teaches a system (i.e. a processor 58 and display 62) and a method for displaying physiological patient data. Wherein the processor assigns the plurality of data a "color" (i.e. true color or gray scale) corresponding to an amplitude; the processor prepares a display of the data in temporal (spatiotemporal) alignment; assigning data points X, Y, and Z coordinates and plotting them to produce a two or three-dimensional representation (col. 1, line 38 – col. 2, line 30; col. 3, lines 38-56; col. 4, lines 1-8; figs. 1 and 3-7).

Therefore, it would have been obvious to any one of ordinary skill in the art at the time the invention was made to have the system and method as taught by Norris or Nearing, by incorporating the method of assigning data points a color corresponding to amplitude and displaying the data points in a temporal alignment as taught by Nubling and further to arbitrarily display the difference points as difference curves as taught by Nearing and Nubling in order to for the easy detect trends in physiological data.

6. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

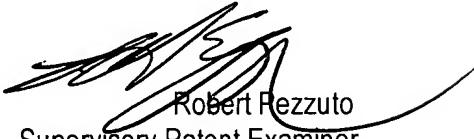
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shevon Johnson whose telephone number is (571) 272-2010. The examiner can normally be reached on M-F (8 a.m. - 4:30 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pezzuto can be reached on (571) 272-6996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shevon Johnson
Art Unit 3766


Robert Pezzuto
Supervisory Patent Examiner
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